SYLLABUS FOR MATHEMATICS 1220 - 001

JOAQUÍN MORAGA

1. Basics

• **Instructor:** Joaquín Moraga.

• **Office:** JWB 321. The JWB building is next to LCB.

• **e-mail:** moraga@math.utah.edu

• **Meetings:** Monday 13:25-14:45 at WBB 617,
  Wednesday 13:25-14:45 at WBB 617,
  Friday 13:25-14:45 at WBB 617.

• **Office hours:** Monday 8:00-10:00. If the fixed office hour does not work for you, send me an email and we can arrange a meeting at any time that works for us.

2. Description

Geometric applications of the integral, logarithmic, and exponential functions, techniques of integration, conic sections, improper integrals, numerical approximation techniques, infinite series and power series expansions, differential equations.

3. Textbook

We will use the textbook:

**Calculus, with Differential Equations,**
by Varberg, Purcell and Rigdon,
9th edition published by Pearson

4. Course Information

Math 1220, Calculus II, Section 001. It is a 4-credit semester course.

5. Prerequisites

C or better in (MATH 120 or MATH 1250 or MATH 1270 or MATH 1310 or MATH 1311) or AP Calculus AB score of at least 4 or AP Calculus BC score of at least 3.
6. Course Learning Outcomes

This course addresses the following Essential Learning Outcomes:

- Compute derivates and integrals for classic functions, such as exponentials, logarithmic, hyperbolic functions, and inverse trigonometric functions.
- Integrate integrable functions using integration by parts, u-substitution, trigonometric substitutions, rationalizing substitutions, decomposition of partial fractions.
- Use L’Hopital’s rule to calculate limits.
- Compute improper integrals.
- Understand convergence principles for sequences and series.
- Learn about Taylor series of a given function and understand the domain of uniform convergence.
- Differentiate and integrate functions in polar and spherical coordinates.

7. Homework

Homework problems are assigned for each section. Homework will not be collected, but I strongly recommend that you do these problems.

8. Exam

You will have two exams (50 minutes each). You must bring a valid ID to the exam. Absence from the exam will be excused only if you can provide verifiable and convincing evidence that you have a significant illness or serious family crisis that will prevent you from attending. Except under unusual circumstances, you must inform me in advance of the missed test.

9. Final Exam

Final Exam Thursday Dec 14th from 10:30am-12:30pm. The final exam will be coordinated with all the other sections of the course.

10. Grading Policy

Your grades will be based on:
- Midterm (3): 25% each.
- Final Exam: 25%.

Final course letter grades will be determined as follows: If X is your course percentage weighted according to the above, then

- $X \geq 88\% \Rightarrow A$
- $X \geq 85\% \Rightarrow A-$
- $X \geq 82\% \Rightarrow B+$
- $X \geq 73\% \Rightarrow B$
- $X \geq 70\% \Rightarrow B-$
- $X \geq 67\% \Rightarrow C+$
- $X \geq 58\% \Rightarrow C$
- $X \geq 55\% \Rightarrow C-$
- $X \geq 52\% \Rightarrow D+$
- $X \geq 43\% \Rightarrow D$
11. Calculators

You will need a scientific calculator for this course.

12. Tutoring

The Rushing Math Center offers free drop-in tutoring, a computer lab, and study areas for undergraduates. The Rushing Student Center is adjacent to the LCB and JWB. The hours for the Fall/Spring semester are: 8 am - 8 pm Monday-Thursday and 8 am - 6 pm on Friday. The tutoring center will open the second week of classes.

13. Classroom Etiquette

Please turn off your cell phones while you are in class. If your cell phone rings or you are texting, you will be asked to leave.

14. Student Responsibilities

All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. Students have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, and I will do so, beginning with verbal warnings and progressing to dismissal from and class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee. http://regulations.utah.edu/academics/6-400.php

15. ADA Statement

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability & Access, 162 Olpin Union Building, 801-581-5020. CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability & Access.

16. Addressing Sexual Misconduct

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veterans status or genetic information. If you or someone you know has been harassed or assaulted, you are
encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677 (COPS).

17. STUDENT NAMES AND PERSONAL PRONOUNS

Class rosters are provided to the instructor with the students legal name as well as Preferred first name (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise me of any name or pronoun changes (and update CIS) so I can help create a learning environment in which you, your name, and your pronoun will be respected. If you need assistance getting your preferred name on your UID card, please visit the LGBT Resource Center Room 409 in the Olpin Union Building, or email bpeacock@sa.utah.edu to schedule a time to drop by. The LGBT Resource Center hours are M-F 8am-5pm, and 8am-6pm on Tuesdays.

18. WELLNESS STATEMENT

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student’s ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.

19. COURSE OUTLINE

Course Roadmap Week-by-Week: Below is an outline and rough schedule of the sections and topic covered in this course.

Week 1: Introduction, Chapters 6.1, 6.2
Week 2: Chapters 6.3, 6.4, 6.5 Note, Friday Sep. 1st is the last day to drop
Week 3: Chapters 6.6, 6.7, 6.8
Week 4: Chapters 6.9, review, Exam 1 (Sep. 15)
Week 5: Chapters 7.1, 7.2, 7.3
Week 6: Chapter 7.4, 7.5, 7.6
Week 7: Chapters 8.1, 8.2, 8.3
Week 8: Fall Break
Week 9: Chapters 8.4, review, Exam 2 (Oct. 20) Note, Friday Oct. 20th is the last day to withdraw
Week 10: Chapters 9.1, 9.2 9.3
Week 11: Chapters 9.4, 9.5
Week 12: Chapters 9.5, 9.6
Week 13: Chapters 9.7, review, Exam 3 (Nov. 17)
Week 14: Chapters 9.8, 9.9
Week 15: Chapters 10.5-10.6
Week 16: Chapter 10.7, review
Week 17: Final Exam Thursday Dec 14th from 10:30am-12:30pm.
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